

communicating with a mobile station from a first base station;
receiving, at a network controller, one or more data messages sent from said mobile
station to said first base station that indicate relative signal strengths of at least a
second base station operating on a same frequency as said first base station;
determining, by said network controller, to handover said mobile station from said first
base station to said second base station based on said signal strengths; and
handing over said mobile station from said first base station to said second base station
based on said determination by said network controller.

Please add the following new claims:

109. The method of claim 102, wherein handing over said mobile station comprises a same frequency soft handover from said first base station to said second base station.

110. The method of claim 102, wherein handing over said mobile station comprises a different frequency hard handover from said first base station to said second base station, wherein said second base station operates on the same frequency as said first base station and further operates on at least one different frequency.

111. The method of claim 102, wherein handing over said mobile station includes temporarily transmitting data to said mobile station from said first base station using a first CDMA spreading code, and simultaneously transmitting the same data to said mobile station from said second base station using a second CDMA spreading code for diversity transmission to said mobile station.

112. The method of claim 102, wherein said mobile station communicates with said first base station using a first CDMA spreading code before and during handover, and wherein said mobile station communicates with said second base station using a second CDMA spreading code during and after handover, and further comprising sending a control message from said first base station to said mobile station that identifies said second CDMA spreading code to support handover of said mobile station.

m2 113. The method of claim 112, further comprising, during handover, temporarily decoding a transmit signal sent from said mobile station using said first CDMA spreading code at both said first and second base stations for dual diversity combining of said transmit signal from said mobile station.

114. The method of claim 112, further comprising, during handover, temporarily decoding transmit signals sent from said mobile station using said first and second CDMA spreading codes at both said first and second base stations for quadruple diversity combining of said transmit signals from said mobile station.

115. The method of claim 102, wherein handing over said mobile station comprises establishing communications with said mobile station from said second base station while retaining control of said mobile station at said first base station, and transferring control of said mobile station to said second base station after said establishing communications with said mobile station from said second base station.

116. The method of claim 115, wherein handing over said mobile station further comprises ending communications with said mobile station from said first base station after said establishing communications with said mobile station from said second base station by ramping down a transmit signal for said mobile station to a low power level, wherein said ramping down is controlled to reduce disturbances to any other mobile stations communicating with said first base station.

117. The method of claim 115, wherein transferring control includes forming power control commands for transmission to said mobile station at said first base station prior to transferring control of said mobile station, and forming power control commands for transmission to said mobile station at said second base station after transferring control of said mobile station, wherein said power control commands control a transmit power of said mobile station.

118. The method of claim 115, wherein establishing communications with said mobile station from said second base station comprises:

beginning transmissions from said second base station to said mobile station;
signaling said mobile station from said first base station to begin receiving said transmissions from said second base station;
receiving signaling from said mobile station at said first base station indicating a received signal strength of transmissions from said second base station; and
signaling said mobile station from said first base station to begin transmitting to said second base station and to begin responding to control signaling from said second base station after determining that said mobile station is receiving transmissions from said second base station at a sufficient signal strength.

119. The method of claim 118, wherein beginning transmissions from said second base station to said mobile station comprises ramping up a transmit signal for said mobile station to a desired transmit power level, wherein said ramping is controlled to reduce disturbances to any other mobile stations already communicating with said second base station.

120. The method of claim 118, wherein signaling said mobile station from said first base station to begin receiving said transmissions from said second base station comprises sending a control message to said mobile station via said first base station that identifies a CDMA spreading code used by said second base station to transmit to said mobile station.

m2 121. The method of claim 118, wherein receiving signaling from said mobile station at said first base station indicating a signal strength of transmissions to said mobile station from said second base station comprises receiving one or more data messages indicating a received signal strength of said transmissions to said mobile station from said second base station.

122. The method of claim 102, wherein handing over said mobile station from said first base station to said second base station comprises retaining an existing connection for said mobile station at said first base station while establishing a new connection for said mobile station at said second base station, and ending said existing connection at said first base station after determining that said new connection at said second base station is established.

123. The method of claim 122, wherein retaining an existing connection for said mobile station at said first base station comprises continuing to transmit traffic and control signals to said mobile station from said first base station and continuing to receive traffic and control signals from said mobile station at said first base station.